# Influenza

2005 is the 11th consecutive year we have presented an Immunization Update broadcast. The only topic that has been included in each of these eleven broadcasts is influenza. This should not be a surprise, considering the timing of this broadcast relative to influenza season, and the frequent changes in products and recommendations. Although the changes in this year's influenza vaccine recommendations are not as extensive as those made in 2004, there are some important new issues that you need to know about.

A new influenza vaccine target group has been added – persons at increased risk of aspiration because of another medical condition, such as spinal cord injury or a seizure disorder. This year's statement also has an increased emphasis on the vaccination of healthcare workers, and on the use of live attenuated influenza vaccine, or LAIV. The ACIP statement also includes a discussion of the influenza virus strains included in the vaccine. Finally, the storage requirements for LAIV have changed – they are simpler this year than in previous years.

Before we talk about these new issues, we would like to briefly review information about the impact of influenza. More than fifty years after the introduction of an effective vaccine, influenza continues to take an enormous toll in lost lives and healthcare costs. Ten to 20% of the U.S. population may be infected with influenza every year, with an even higher infection rate in children.

Influenza is the most frequent cause of death from a vaccine preventable disease in the United States. During 1990 through 1999, approximately 36,000 influenza-associated pulmonary and circulatory deaths occurred during each influenza season. Influenza seasons in which H3N2 viruses predominate are associated with higher mortality. Persons 65 years of age and older account for more than 90% of deaths attributed to pneumonia and influenza. Persons with underlying medical conditions account for most of the remaining 10% of deaths. In addition to fatalities, influenza is also responsible for an average of 226,000 hospitalizations per year. Although persons 65 years of age and older are at the highest risk of dying from influenza, other age groups are at nearly as high risk for influenza-associated hospitalization.

This table summarizes age-specific rates of influenza related hospitalizations per 100,000 population from several published studies. The rates among persons at high risk of complications are shown in the center column, and those not at high risk in the right column. Children birth to 4 years of age had rates of hospitalization higher than any other age group through age 64. The hospitalization rate among children younger than 4 years with high risk medical conditions was 500 per 100,000 population, 5 times higher than healthy children of the same age. This rate of hospitalization was higher than any other age group

with high risk conditions through age 64, and in some of the studies even higher than people 65 years and older with high risk conditions. The risk of complications and hospitalization is not equal for all children. This table shows rates of influenza related hospitalizations by age of a Medicaid population in Tennessee. By far the highest rate of hospitalization was among children 11 months of age and younger, particularly those with high risk conditions, shown in the center column. But rates of hospitalization are very high through 2 years of age in both healthy children and those with high risk conditions. Rates of hospitalization in children younger than 2 years are similar to those of persons 65 and older with high risk medical conditions.

In order to reduce this enormous burden of disease among children, ACIP and the Academies of Pediatrics and Family Physicians recommend routine annual influenza vaccination for all children 6 months through 23 months of age. In addition, vaccination is recommended for the household contacts and out of home caregivers of children birth through 23 months of age. This is particularly important for household contacts of infants younger than six months of age because no influenza vaccine is approved for this age group in the United States.

Vaccination of all children 6 through 23 months of age, as well as their parents and siblings is a formidable challenge for many practices, particularly since all this vaccination needs to be done in October and November. It is not necessary for you to reinvent the wheel as you prepare for this task. In November 2002 the National Foundation for Infectious Diseases convened a panel of experts to discuss ways to increase influenza vaccination rates among healthy and high risk children. The panel reviewed data on influenza disease burden and epidemiology, efficacy and safety of influenza vaccine, as well as barriers to pediatric influenza immunization, and ways to overcome them.

The findings and conclusions of the panel were published in 2003 in this document – *Increasing Influenza Immunization Rates in Infants and Children: Putting Recommendations Into Practice*. The document includes a comprehensive review of proven strategies that providers may adapt for their practices. Many of the strategies should already be familiar to you. Strategies recommended by the panel include reminder and recall systems to remind parents to bring the child to the office for vaccination or recall them for the second dose; practice assessments to determine vaccination coverage levels in your patient population; use of standing orders to allow vaccination by a nurse or other staff without a specific order from a physician; establishment of influenza clinics, or specific times when only influenza vaccine will be administered; mass influenza immunization programs at clinics and practices that include persons of many ages – to make influenza vaccination a family activity; parent education about the importance of influenza vaccination of children; and finally, your office staff must be educated about the importance of influenza vaccine and the need to educate and inform parents at every opportunity. Everyone in your office should be vaccinated to protect themselves, and to prevent spread of influenza to your patients. You must lead by example.

Be sure to get a copy of this free, informative document from the National Foundation for Infectious Diseases website. And read it! It will help make your influenza vaccination program a little less daunting. We will have a link to the document on our broadcast resources website.

Two final points about the operational aspects of pediatric influenza vaccination. Influenza vaccine is now included in the Vaccines For Children, or VFC, program. It includes all VFC-eligible children 6 through 23 months of age. VFC will also provide vaccine for children 2 through 18 years of age who are household contacts of persons at increased risk of complications of influenza, including children 23 months of age and younger. Second, influenza vaccine is now included in the National Childhood Vaccine Injury Compensation program.

The ACIP updates its influenza vaccine recommendations every year. This year's ACIP statement was published a little later than usual, in July 2005. Before we talk about the new recommendations, we would like to discuss the **timing** of your influenza vaccination activities this year.

As you know, the annual supply of influenza vaccine, and the timing of its distribution, cannot be guaranteed in any year. Information about the supply of 2005-2006 vaccine might not be available until late summer or early fall 2005. Inactivated influenza vaccine campaigns conducted in October should focus primarily on persons at increased risk for influenza complications and their contacts, including healthcare workers. Healthcare workers should be near the head of the line for influenza vaccine, not at the back of the line. Campaigns in November and later should continue to vaccinate persons at increased risk of complications and their contacts as well as other persons who wish to decrease their risk of influenza.

CDC and other public health agencies will monitor this year's vaccine supply on a continuing basis. If necessary, recommendations will be made regarding the need for prioritized, or tiered, timing of inactivated influenza vaccination of different risk groups. Because LAIV is approved for use in healthy persons 5 through 49 years of age its use will not be subject to tiered timing. Here are two more points about the timing of influenza vaccine. To avoid missed opportunities for vaccination persons at high risk for serious complications should be offered vaccine beginning in September during routine healthcare visits or during hospitalizations. In facilities housing older persons, such as long-term care facilities, vaccination before October should be avoided. This is because antibody levels in such persons can begin to decline within a few months after vaccination. ACIP does **not** recommend a second dose of influenza vaccine in the same season except for children younger than 9 years of age being vaccinated for the first time. This is a very common question we receive. For adults, only one dose per season is recommended, even if the first dose was given in September.

There seems to be a perception that influenza vaccination is an October activity. It has been difficult to convince providers to continue providing vaccine to their patients into December and beyond. It is critical that we change this perception. This graph shows the month in which influenza activity peaked in the United States from 1976 through 2005. Influenza activity peaked in December in only 14% of seasons. Activity peaked in January in 21% of seasons and in February in 45% of seasons.

The message here is that December is **not** too late to receive influenza vaccine. Vaccination in January or even February can still prevent a lot of influenza. ACIP recommends that providers continue to offer influenza vaccine in December, especially to those at high risk of complications and to healthcare workers. Providers should continue to vaccinate throughout influenza season even after influenza activity has been documented in the community.

Let's review briefly groups at increased risk for complications of influenza. Persons at increased risk for complications of influenza are the target groups for your inactivated influenza vaccination programs.

- Age is an important risk factor, in particular adults 65 years and older, and children 23 months of age and younger. ACIP recommends routine vaccination for persons 50 years and older because persons 50 to 64 years of age have an increased prevalence of high risk conditions.

- In addition to age, the medical conditions that increase the risk of influenza complications include: pulmonary disease such as emphysema and asthma; cardiovascular disease; and metabolic disease such as diabetes. Other high risk conditions include renal dysfunction, such as chronic renal failure or nephropathy; hemoglobinopathy; and immunosuppression, including HIV infection.. As we mentioned earlier, persons with conditions that compromise respiratory function or increase the risk of aspiration are at increased risk of complications of influenza. Examples of these conditions are spinal cord injury, stroke, and seizure disorder. This is the first year this group has been included in the high risk group.

- In addition to persons with chronic illnesses, other risk groups include residents of long term care facilities and persons 6 months to 18 years of age receiving chronic aspirin therapy because of the risk of Reye syndrome.

- Finally, pregnant women should be routinely vaccinated. Pregnant women are a group at increased risk for complications of influenza. Excess deaths from influenza among pregnant women were documented during the pandemics of 1918-1919, and 1957-1958. Case reports and limited studies also indicate that pregnancy can increase the risk for serious medical complications of influenza. A study published in 1998 found that

the risk of hospitalization for influenza-related complications was more than 4 times higher for women in the second or third trimester of pregnancy than for nonpregnant women. The risk of complications for these pregnant women was comparable to nonpregnant women with high-risk medical conditions. ACIP recommends vaccination with inactivated influenza vaccine for **all** women who will be pregnant during influenza season, December through March. Vaccination can occur in any trimester of pregnancy. Pregnant women should receive only inactivated influenza vaccine. Live attenuated influenza vaccine is contraindicated during pregnancy. Pregnant women may receive inactivated influenza vaccine either with or without thimerosal as a preservative.

So far we have discussed vaccination of persons who are at increased risk of complications of influenza. It is also critical to vaccinate persons who are in close contact and can transmit influenza to those at increased risk of complications. This group includes healthcare workers, including home care, employees of long-term care facilities, and household members of high-risk persons. Healthcare workers are a high priority for early supplies of influenza vaccine. Healthcare workers are often implicated in introducing influenza into healthcare settings and causing outbreaks among patients. Outbreaks among patients have been reported in a number of healthcare settings including ICUs, neonatal intensive care units, and nursing homes. Healthcare workers often work while they are ill, exposing vulnerable patients and their coworkers to influenza. In addition, healthcare workers may be able to spread influenza even if they are not symptomatic since influenza viruses can be shed a day before symptoms even develop. To make matters even worse, about half of influenza infections are asymptomatic. So even someone who does not develop symptoms or has very mild symptoms may be able to transmit influenza to another person.

Vaccination of healthcare workers has been associated with reductions in influenza-related death among nursing home residents based on 2 randomized studies. Vaccination of healthcare workers is also associated with reductions in overall illness in nursing home residents. Vaccination can also reduce the risk of influenza infection. A reduction in illness and illness-related absenteeism among adults has been demonstrated in several studies.

Despite known benefits of influenza vaccination to both their patients and themselves, only 40% of US healthcare workers were vaccinated in 2003. That means 3 out of 5 healthcare workers put themselves, their families, **and** their patients at risk of a potentially deadly infection. Healthcare workers cite a number of reasons for not receiving influenza vaccine. These include concern about vaccine adverse events or vaccine safety, including the misperception that the injectable vaccine could cause influenza; a perception of a low personal risk of influenza virus infection; inconvenience of receiving the vaccine; ignorance of CDC recommendations for vaccination; and dislike of needles. Healthcare workers owe it to their patients, their families, and to themselves to be vaccinated. No excuses. Steps to encourage healthcare worker vaccination

include reduction of financial and time barriers; education about the need to protect themselves and their patients; role modeling and support by institutional leaders; incorporating influenza vaccination programs into the institution's patient safety and occupational health programs; and monitoring and reporting of vaccination rates in the institution. Monitoring and reporting vaccination rates could be used to create friendly competition between various units in the facility. You could even provide an incentive to the unit with the highest vaccination rate. If workers won't be vaccinated to protect themselves and their patients, they might do it for a pizza.

Resources are available to help improve the influenza vaccination levels of your employee population. The first is a guide to improving influenza vaccination rates in healthcare workers published by the National Foundation for Infectious Diseases. The document is available on their website at www.nfid.org. The second resource is from the Association for Professionals in Infection Control and Epidemiology. APIC calls its toolkit "Protect your Patients. Protect Yourself". It contains a variety of materials such as a PowerPoint presentation, case studies, prototype employee newsletter articles and month by month checklists. The toolkit is available on the APIC website at www.APIC.org. In addition to material from NFID and APIC, the Immunization Action Coalition also has useful materials on their website including fact sheets, prototype standing orders documents, and vaccine information statements in many languages. We will have a link to all these materials on our broadcast resources webpage.

The majority of the influenza vaccine available in the U.S. is inactivated subunit vaccine. The two types of subunit vaccine available contain either split virus, or purified hemagglutinin. A live attenuated influenza vaccine administered by nasal spray is also available again this year. We will discuss this vaccine in more detail in a few minutes.

Both types of influenza vaccine – inactivated and live attenuated vaccine – are trivalent, meaning they contain 3 different viruses, two type A viruses and one type B. The viruses contained in the vaccine are chosen each spring, based on surveillance of current circulating strains. The vaccine recommended for the 2005-2006 season includes A/California/7/2004 -- the H3N2 strain; A/New Caledonia/20/99 – the H1N1 strain, and B/Shanghai/361/2002. Only the H3N2 strain was changed this year. For the A/California virus, manufacturers will use the antigenically equivalent A/New York/55/2004 strain. It is also likely that a different but antigenically equivalent B strain may be substituted for the B/Shanghai.

All influenza vaccine is made from highly purified, egg grown viruses. Because the vaccine viruses are initially grown in embryonated hens eggs, the vaccine might contain a small amount of residual egg protein. Live attenuated influenza vaccine contains a substantial amount of egg protein. Consequently, influenza vaccine generally should not be administered to persons with anaphylactic egg allergy.

The inactivated influenza vaccination schedule is relatively simple -- one **intramuscular** dose per year. But the dose is not the same for all age groups, and some recipients need 2 doses. Here is the routine schedule for influenza vaccine. The minimum age is 6 months. No influenza vaccine is approved for children younger than 6 months. Children 6 months through 35 months of age receive a dose of 0.25 mL -- half the dose of an older child and adult. Recipients 3 years of age and older should receive a 0.5 mL dose. Children 6 months through 8 years of age receiving influenza vaccine for the **first** time should receive **two** doses, separated by one month. The first dose is an immunologic primer. Two doses are not necessary for persons 9 years or older, because by this age our immune systems have been primed by infection with wild type influenza virus.

What if a child is receiving influenza vaccine for the first time, and does not return for the second dose a month later. Does the child need one or two doses the following year? This will be a common occurrence this year because of the supply problems we encountered last year. Fortunately, you can count last year's dose as the primer dose. The child needs only one dose this year, and in subsequent years.

Thimerosal, a mercury containing compound used as a preservative in some vaccines, is once again drawing considerable public attention. Although there is no evidence that thimerosal in vaccines leads to serious adverse events in recipients, manufacturers have removed it from most vaccines. Thimerosal free influenza vaccine will be available for the 2005-2006 season. Sanofi Pasteur plans to produce thimerosal free influenza vaccine – brand name FluZone® – in single dose syringes in both a pediatric and adult formulation. The pediatric formulation is for children 6 through 35 months of age, and the adult formulation is for persons 36 months and older. Sanofi also plans to produce a preservative free pediatric formulation, which contains a trace of thimerosal. It is called preservative free because the small amount of thimerosal present – less than 1 µg per dose – does not function as a preservative. Sanofi will also produce multidose vials of inactivated influenza vaccine that contain 25 µg of thimerosal per dose. Chiron vaccine – Fluvirin® – may be available for the 2005-2006 influenza season. Fluvirin is approved by FDA for persons 4 years of age and older. It should **not** be administered to children 6 months to 4 years of age. Fluvirin, if it is available, will be produced in a preservative-free formulation that contains a trace of thimerosal. This formulation will be packaged in a single dose syringe. ACIP believes that because of the known risks for severe illness from influenza infection, the benefit of influenza vaccine with reduced **or standard** thimerosal content outweighs the theoretical risk, if any, from thimerosal.

Influenza vaccine has been available in the United States since the mid-1940s. Until recently, all influenza vaccines contained either whole inactivated virus, or virus subunits. In June 2003, the Food and Drug Administration approved this country's first live attenuated influenza vaccine, which we will refer to as LAIV.

The vaccine is produced by MedImmune and marketed as FluMist®. ACIP encourages the use of LAIV in eligible persons, including healthcare workers, to help increase the amount of inactivated influenza vaccine available for high risk groups. We hope that more of you will be using LAIV – or receiving it – this year. So we want to review the characteristics and recommendations for the use of this product.

LAIV is trivalent, and contains the same virus strains included in inactivated influenza vaccine. It does not contain thimerosal or gelatin but does contain egg protein. LAIV has been demonstrated to reduce culture confirmed influenza, febrile otitis media, and antibiotic use in children. It also reduces febrile upper respiratory tract episodes, lost work days, and antibiotic use among adult recipients. However, there is no evidence at this time that LAIV reduces febrile illness or culture confirmed influenza more effectively than inactivated influenza vaccine.

LAIV contains live influenza viruses. As a result, there is at least theoretical potential for transmission of vaccine viruses to other persons. Vaccinated children can shed vaccine viruses in nasopharyngeal secretions for up to 3 weeks. In one study in a childcare setting, 80% of vaccinated children 8 to 36 months of age shed at least one virus strain for an average of 7.6 days. But remember that shedding does NOT equate to transmission of the virus. In this study, **one** instance of transmission of vaccine virus to a contact was documented. The transmitted virus retained its attenuated and cold-adapted, temperature-sensitive characteristics. The frequency of shedding of vaccine strains by persons 5 to 49 years of age has not been determined, but there have been **no** reports of transmission of vaccine viruses in the United States.

Live attenuated influenza vaccine is approved by the Food and Drug Administration **only** for use among healthy persons 5 through 49 years of age. This group now has the option for choosing either inactivated vaccine or LAIV. This table shows the vaccination schedule for LAIV based on age and prior influenza vaccination history. A dose of LAIV is 0.5 mL, regardless of age, divided equally between nostrils. Children 5 to 8 years of age who have received no previous influenza vaccine – either LAIV or inactivated influenza vaccine – should receive two doses of LAIV separated by 6 to 10 weeks. Note that this is longer than the 4 weeks recommended between the first two doses of inactivated influenza vaccine. ACIP recommends that children 5 to 8 years of age previously vaccinated at any time with either LAIV or inactivated influenza vaccine receive one dose of LAIV. They do not require a second dose. This is different than the manufacturer’s labeling, which recommends that children who have not previously received LAIV should receive two doses, regardless of whether they may have previously received inactivated influenza vaccine. Persons 9 through 49 years of age should receive one dose of LAIV.

LAIV is approved for use **only** in healthy persons 5 through 49 years of age. LAIV is **not** approved for, and is not recommended for, administration to most persons for whom inactivated influenza vaccine has been recommended for many years. Persons who should **not** receive LAIV include children younger than 5 years of age; adults 50 years of age and older; persons with asthma, reactive airways disease or other chronic pulmonary or cardiovascular conditions. These persons should receive inactivated influenza vaccine. Persons with other underlying medical conditions should not receive LAIV. These conditions include metabolic disease such as diabetes, renal disease, or hemoglobinopathy, such as sickle cell disease; and children or adolescents receiving chronic aspirin therapy, because of the association of Reye syndrome with wild-type influenza infection. Persons in these groups should receive inactivated influenza vaccine. As with all live virus vaccines, persons who are immunosuppressed from disease, including HIV, or who are receiving immunosuppressive therapy, should not receive LAIV. Pregnant women should not receive live virus vaccines, including LAIV. Immunosuppressed persons and pregnant women should receive inactivated influenza vaccine. Since LAIV contains residual egg protein, it should not be administered to persons with a history of severe allergic reaction to egg or any other vaccine component. Finally, the vaccine should not be administered to a person with a history of Guillain Barré syndrome.

LAIV may be administered to persons with minor acute illnesses, such as mild upper respiratory tract infection with or without fever. However, if nasal congestion is present which might impede delivery of the vaccine to the nasopharyngeal mucosa, deferral of administration should be considered until the condition improves.

Close contacts of persons at high risk for complications from influenza should receive influenza vaccine. This reduces the risk of transmission of wild-type influenza viruses to high risk individuals. There are no data assessing the risk of transmission of LAIV from vaccine recipients to immunosuppressed contacts. But there have also been no reports of transmission to immunosuppressed contacts. In 2003, ACIP recommended that use of inactivated influenza vaccine be used for vaccinating household members, healthcare workers, and others who have close contact with immunosuppressed individuals. ACIP modified this recommendation in 2004. ACIP now states that inactivated influenza vaccine is preferred **only** for close contacts of **severely** immunosuppressed persons who require care in a protective environment. Practically, this means that healthcare workers and others who have contact with hematopoietic stem cell transplant patients while in isolation should not receive LAIV. This preference is because of the theoretical risk that a live attenuated vaccine virus could be transmitted to the severely immunosuppressed individual and cause disease. ACIP states no preference between inactivated vaccine and LAIV for vaccination of healthcare workers and others in close contact with patients with lesser degrees of immunosuppression, and all other high-risk groups. Of course, to be eligible for LAIV the person must be 5 to 49 years of age and healthy. Persons who receive LAIV, including healthcare workers, should refrain from contact with severely immunosuppressed persons for 7 days after vaccination. This precaution is to

avoid exposing the immunosuppressed person to the vaccine virus. During the last two years we heard about several instances of LAIV recipients being banned from entering hospitals. This is not necessary. ACIP recommends that persons who receive LAIV need not be excluded from visitation of patients who are not severely immunosuppressed or have other medical conditions.

The manufacturer's package insert recommends that LAIV not be administered concurrently with other vaccines. This is because it is not known whether concurrent administration of LAIV with other vaccines affects the safety or efficacy of either LAIV or the simultaneously administered vaccine. In the absence of specific data indicating interference, ACIP recommends that providers follow the simultaneous administration guidelines published in the *General Recommendations on Immunization*.

Inactivated vaccines do not interfere with the immune response to live vaccines. Inactivated vaccines – such as tetanus and diphtheria toxoids – can be administered either simultaneously or at any time before or after LAIV. Other live vaccines can be administered at the same visit as LAIV. However, live vaccines not administered on the same day should be administered at least 4 weeks apart when possible.

It is worth mentioning here the timing of LAIV and tuberculin skin testing. The 2002 General Recommendations suggest that PPD testing can be done at any time before or after LAIV. We have since reconsidered this position. Although this is not addressed in the influenza ACIP statement, we now suggest that you treat LAIV like other live virus vaccines – place the PPD on the same day as LAIV. If PPD is not applied on the same day as LAIV is administered, you should defer PPD testing for at least 4 weeks **after** LAIV. Do not risk a false negative PPD.

LAIV is a fragile vaccine that has stringent storage and handling requirements. The viruses in LAIV have no tolerance for heat. LAIV must be stored at an average temperature of 5°F, which is minus 15°C, or colder. This is the same storage conditions required for your varicella vaccine. Unlike varicella vaccine, in previous years LAIV could not tolerate a frost free freezer. If providers did not have access to a manual defrost freezer, then it was necessary to store LAIV in a special manufacturer-supplied freezer box. You remember the freezer box – that big purple thing that took up half the room in your freezer. If you have not seen one by now it is possible you never will. The good news is that MedImmune has provided new stability data, and the FDA changed the storage requirements for LAIV. The special freezer box is no longer required. LAIV may now be stored in a standard frost free freezer that has a separate door and can reliably maintain an average of 5°F or colder.

You should keep the vaccine frozen until immediately before it is used, at which time you will thaw it in your hand. Do not roll the sprayer between your hands because you can dislodge the plunger. LAIV may also be thawed in a refrigerator. LAIV can be stored at refrigerator temperature – which is 35° to 46°F or 2° to 8°C for up to 60 hours prior to use. Thawed vaccine cannot be refrozen.

Any LAIV that is kept at refrigerator temperature more than 60 hours must be discarded.

Because LAIV is administered intranasally using a sprayer device, low level contamination of the environment with vaccine virus is probably unavoidable. This has caused concern about unintentional exposure to persons administering the vaccine. The risk of acquiring vaccine virus from the environment is unknown but is likely to be limited. ACIP recommends that severely immunosuppressed persons should not administer LAIV. Practically, that means that if a person is immunocompetent enough to go to work, he or she is immunocompetent enough to administer LAIV. However, other persons at increased risk for influenza complications may administer LAIV. For instance pregnant women, persons with asthma, and persons 50 years of age and older may administer the vaccine. Gloves and masks are not required to administer LAIV.

To sum up, live attenuated influenza vaccine will compliment, but **not replace** inactivated influenza vaccine. The most important thing to remember is that it is approved **only** for healthy persons 5 through 49 years of age. LAIV must not be administered to children younger than 5 years, adults 50 and older, or to anyone with a medical condition that places them at high risk for complications of influenza. These groups should receive inactivated influenza vaccine. The vaccine is fragile, and requires careful storage conditions, but the freezer box is no longer required. Information about the use of LAIV is included in the 2005 influenza vaccine ACIP statement. There is also a Vaccine Information Statement specific to LAIV. Both the ACIP statement and VIS are available on our broadcast resources website. The VISs will be available soon in Spanish from the Immunization Action Coalition website.